

Lahille. Further, Claims 1, 3, 4, 6, 21, 25, 27 and 30 were rejected as anticipated by Nolan. Claim 1 has been amended to better reflect the invention and is directed to a fusion cage of the type which requires anterior insertion. Because the operating environment is very confined, whether the cage is anteriorly or posteriorly inserted is very important, because that also determines which end of the cage will be available to the surgeon for further manipulation. The Lahille reference is directed to posterior cage that is inserted from the rear. It is urged that there is no teaching in Lahille as to how to modify the device shown therein to operate as an anterior cage. Further, structure now included in Claim 1 distinguishes from Lahille in that Claim 1 now calls for a fastener that has a posteriorly threaded shank that is received in a threaded bore in the posterior wall. Lahille shows no such structure or how to modify the structure found therein to make applicant's device. It is also noted that the cylinder of Lahille moves posteriorly as the cage is opened which produces long lever arms forward of the cylinder in the upper and lower legs. This may lead to failure of the device, because substantial pressure may be exerted on such unsupported lever arms during use and failure of this type is avoided by applicant with an expansion cap that supports anterior ends of the legs.

With respect to Nolan, it is noted that Nolan is directed to a fusion cage that can be modified to be a posterior cage, as in Fig. 8 and with disc 14, or an anterior cage as shown in Fig. 12 with the "disc" (actually a screw cap) 14'. With respect to either configuration of the Nolan device, it is urged that applicant's structure, as called for in Claim 1, is different in structure and distinguishes over Nolan. In particular, Claim 1 calls for an anterior expansion cap and a fastener that urges that wedge member of the expansion cap toward the posterior wall with the fastener having a posteriorly threaded shank that is threadedly received in the posterior wall. The anterior fusion cage version of Nolan (see Fig. 12) has a threaded cap with a disc, but the threads engage the anterior ends of the walls and produce expansion because they are cone-shaped. This does not suggest extending the end cap rearwardly to the rear wall as is called for in applicant's device. Further, Nolan's structure may result in failure of the device during use since the threads are not received in a bore and, if the walls are spaced due to a striking blow or the like during use, the end cap of Nolan can become dislodged and the implant fails. This cannot happen in applicant's device as the fastener is securely held in the threaded bore of the posterior wall. The second embodiment of Nolan, where Nolan's device is modified to be used as a posterior

cage is also not seen to teach or suggest applicant's device, since applicant's claimed structure is missing and there is no suggestion as to how to combine that embodiment of Nolan with the embodiment of Fig. 12 or any of the other prior art of record to provide applicant's claimed device.

Claim 4 was also rejected as anticipated by Lahille or Nolan. As was noted with respect to Claim 1, Claim 4 now calls for an anterior implant and includes structure, especially associated with the fastener, that distinguishes over Lahille and Nolan. In particular, Claim 4 calls for a fastener having an anterior end mating with an anterior end cap and a posterior end that is threadedly received in a posterior wall of the implant. This structure is not found or suggested by Lahille or Nolan.

Claim 21 was rejected as anticipated by Nolan. Claim 21 has been amended to better define the intention and is urged to distinguish over Nolan, as Claim 21 calls for a fastener extending between the expansion cap at the anterior end of the implant and being threaded into the posterior wall of the implant.

Claim 21 was also rejected as anticipated by Chauvin et al. Chauvin et al. is directed to a posteriorly inserted fusion cage so it is different from the claimed subject matter for that reason. But the structure of Chauvin et al. is also quite

different for other reasons. Chauvin et al. fails to have an anterior expansion cap and a fastener that extends between the expansion cap and posterior wall of the implant to cooperate with the expansion cap to produce expansion of the anterior end of the implant.

Claim 25 was rejected as anticipated by Lahille, Nolan and Chauvin et al. Claim 25 has been amended to better distinguish the invention and for the reasons given above is urged to distinguish over those references. In particular, Claim 25 calls for a fastener extending between an anterior expansion cap and a posterior wall of the cage that is threadedly received in the posterior wall. The fastener cooperates with the expansion cap to urge the anterior end of the cage into a selected degree of expansion. This is not found in one or a combination of these prior art references.

Claim 30 was rejected as anticipated by Nolan. Claim 30 has been amended to include structure that is urged to distinguish over Nolan. In particular, Nolan does not show or teach a fastener that extends between an anterior expansion cap and is threaded into a posterior wall of the cage to cooperate with the cap to expand the anterior end of the cage, especially when the cage is an anterior inserted cage. It is urged that there is nothing in Nolan that teaches or suggests how to provide such a

structure.

Claims 11 to 13 were rejected as anticipated by Pisharodi or Koros et al. Independent Claim 11 has been amended to better describe the invention. Claim 11 now calls for structure that expands the anterior end of the implant while preventing expansion of the posterior end of the implant. The Koros et al. reference is directed to a complex structure wherein both the anterior end and the posterior end expand and it does not teach or suggest how to construct a device wherein only the anterior end expands, as is desired in most spinal surgery. The Pisharodi reference also does not teach the claimed structure, as the device shown therein expands in the middle and not at the anterior end thereof. Consequently, it is urged that Claim 11, as well as Claims 12 and 13 which depend from Claim 11, distinguish over both Koros et al. and Pisharodi.

The remaining claims of the application depend directly or indirectly from one of the above mentioned independent claims and are urged to be allowable for the same reasons as have been noted above for the independent claims. The previously withdrawn claims now depend from claims that are urged to be allowable and it is urged that they should now be considered with the remainder of the claims.

In summary, it is believed that Claims 1 to 30 are allowable

over the art of record and notice to that effect is earnestly solicited.


The Examiner is invited to contact the undersigned by telephone, if prosecution of this application can be expedited thereby.

Respectfully Submitted,

JCM;kdc

PO Box 30069

Kansas City, Missouri  
64112  
Phone: (816) 531-3470

  
John C. McMahon

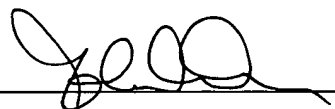
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Attorney

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner For Patents, Washington, D.C. 20231 on October 31, 2001.

Roger P. Jackson  
(Applicant)

By



October 31, 2001

(Date of Signature)